

Figure 1 is a block diagram of a prior art network architecture. The diagram is divided into two main sections by a vertical dashed line labeled "PDN (e.g. Internet)".

Left Section (Core Network):

- UE (User Equipment):** Two blocks labeled 116 and 128.
- UTRAN (Universal Terrestrial Radio Access Network):** Block 118, connected to UE 116 via interface Uu.
- GERAN (GSM/EDGE Radio Access Network):** Block 130, connected to UE 128 via interface Um.
- SGSN (Serving GPRS Support Node):** Block 120, connected to UTRAN 118 via interface Iu and to GERAN 130 via interface Iu/Gb.
- GGSN (Gateway GPRS Support Node):** Block 122, connected to SGSN 120 via interface Gn/Gp.
- BG (Base Gateway):** Block 124, connected to GGSN 122 via interface Gi.
- Multicast Broadcast Source:** Block 126, connected to BG 124 via interface Gi.

Right Section (Service Network):

- Content Provider:** Block 104, connected to BM-SC 110 via interface 112.
- OSA SCS (Open Service Access Security Context):** Block 114, connected to Content Provider 104 via interface 112.
- BM-SC (Broadcast Multicast Service Center):** Block 110, connected to Content Provider 104 via interface 112, to OSA SCS 114 via interface 112, and to Multicast Broadcast Source 126 via interface Gi.
- CBC (Content Broadcast Center):** Block 102, connected to BM-SC 110 via interface 110.
- HLR (Home Location Register):** Block 106, connected to CBC 102 via interface 106.
- CSE (Content Service Element):** Block 108, connected to CBC 102 via interface 108 and to GGSN 122 via interface 122.

The diagram is labeled "PRIOR ART" at the bottom.

```

graph TD
    subgraph MS
        MS_Upper[Upper layers]
        PDCP_MS[PDCP]
        RLC_MS[RLC]
        MAC_MS[MAC]
        Phy_MS[Phy]
        MS_Upper --- PDCP_MS
        PDCP_MS --- RLC_MS
        RLC_MS --- MAC_MS
        MAC_MS --- Phy_MS
    end

    subgraph GERAN
        Relay[Relay]
        PDCP_GERAN[PDCP]
        RLC_GERAN[RLC]
        MAC_GERAN[MAC]
        Phy_GERAN[Phy]
        GTP_U[GTP-U]
        UDP_IP[UDP/IP]
        L2[L2]
        L1[L1]
        Relay --- PDCP_GERAN
        Relay --- GTP_U
        PDCP_GERAN --- RLC_GERAN
        RLC_GERAN --- MAC_GERAN
        MAC_GERAN --- Phy_GERAN
        GTP_U --- UDP_IP
        UDP_IP --- L2
        L2 --- L1
    end

    subgraph SGSN
        SGSN_Upper[Upper layers]
        GTP_U_SGSN[GTP-U]
        UDP_IP_SGSN[UDP/IP]
        L2_SGSN[L2]
        L1_SGSN[L1]
        SGSN_Upper --- GTP_U_SGSN
        GTP_U_SGSN --- UDP_IP_SGSN
        UDP_IP_SGSN --- L2_SGSN
        L2_SGSN --- L1_SGSN
    end

    Phy_MS --- Um --- Phy_GERAN
    L1_SGSN --- Iu --- L1_GERAN

```

PRIOR ART

2/5

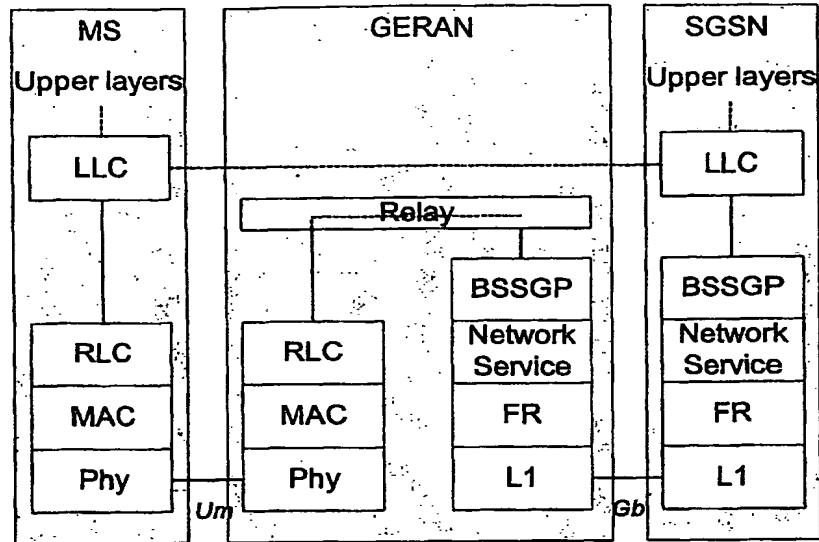


Figure 3

PRIOR ART

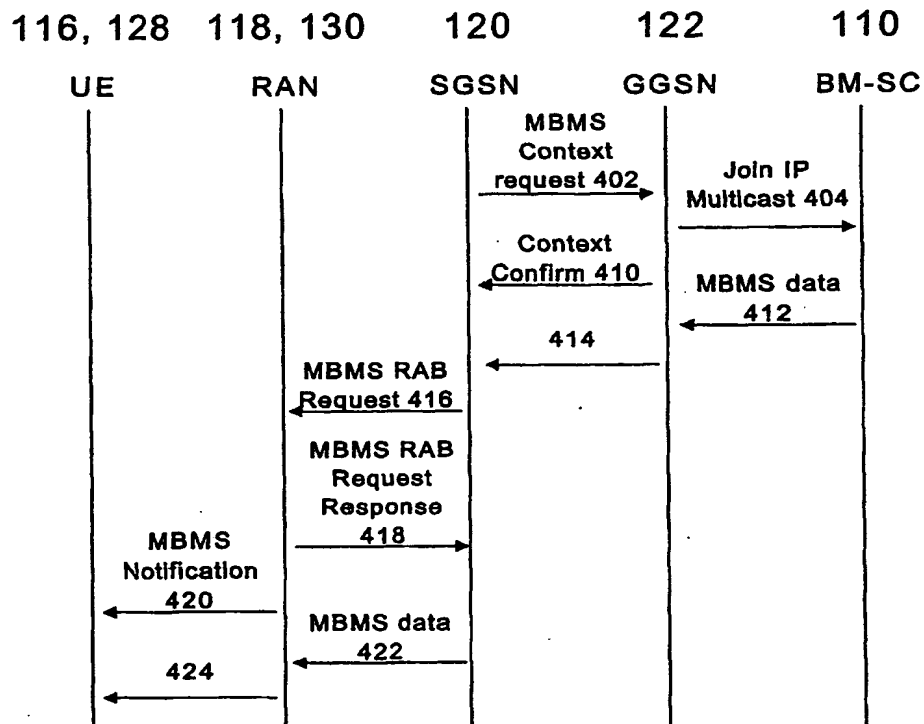


Figure 4

PRIOR ART

3/5

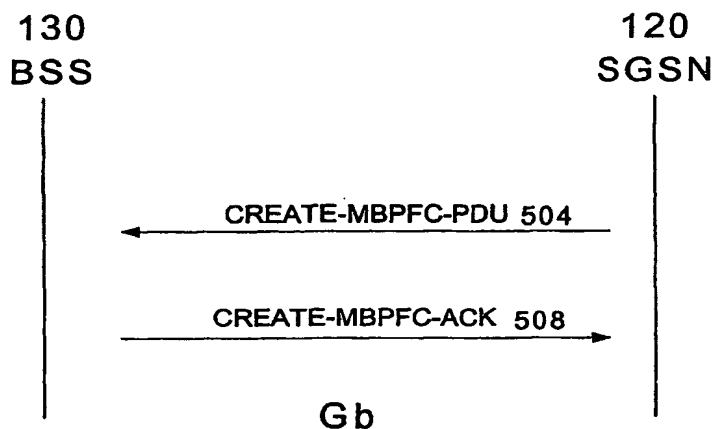


Figure 5A

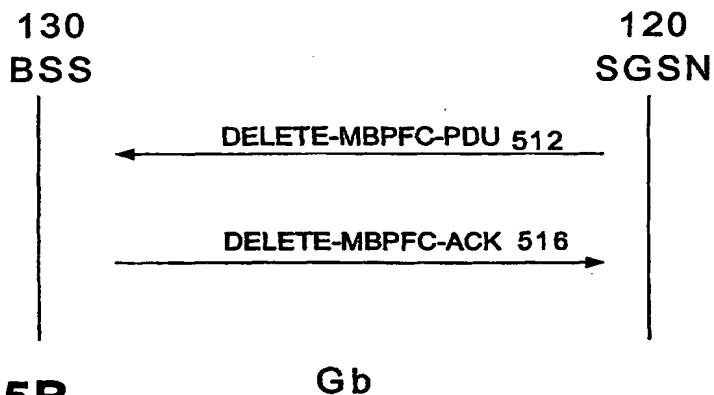


Figure 5B

4/5

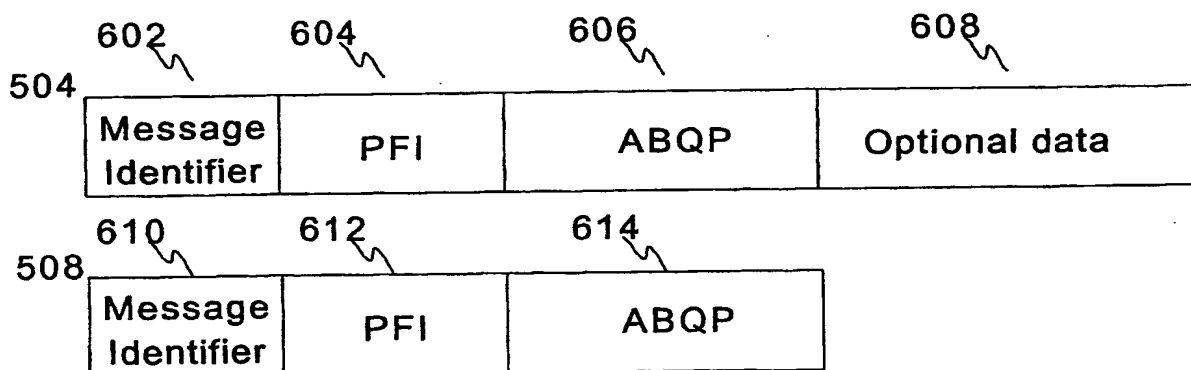


Figure 6

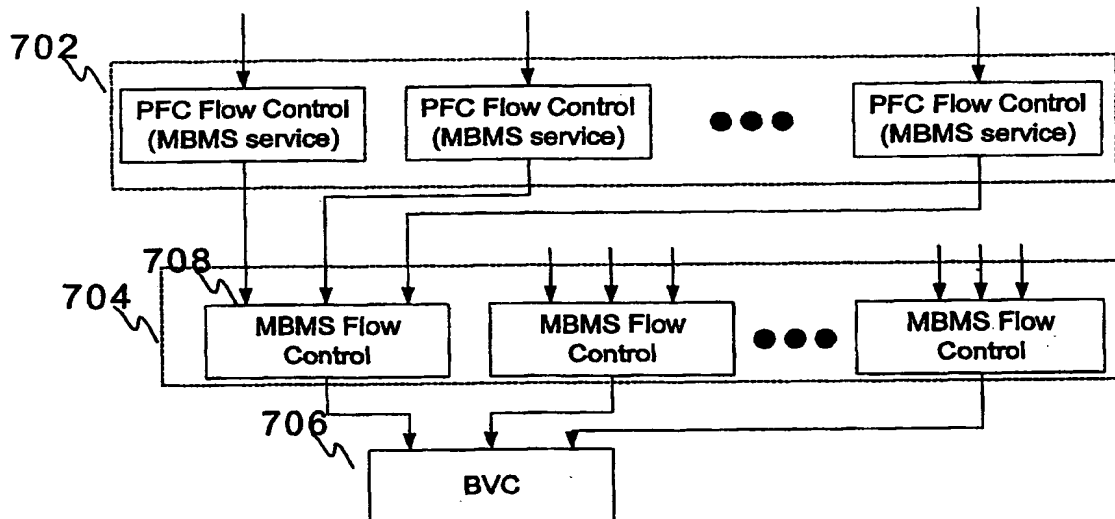


Figure 7

5/5

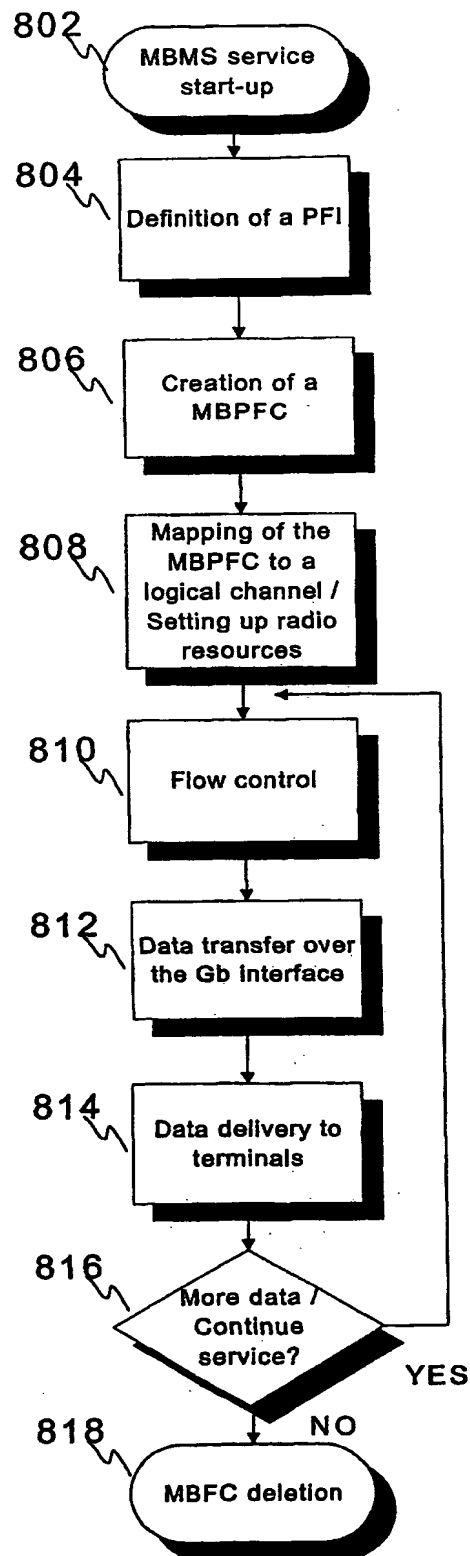


Figure 8